

## **The School Library as a Dynamo within the Learning Community of the School**

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### **Abstract**

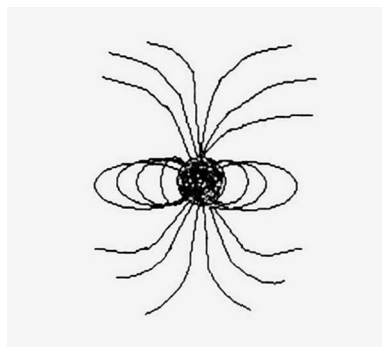
This paper demonstrates how a school library can be an intellectual power centre, a dynamo within the school, helping to build citizens of a knowledge society, using a variety of research-based units of work designed by teacher librarians at St Andrew's Cathedral School in collaboration with teachers across the curriculum. The types of units are information-skills-based units, units based on Bloom's Taxonomy, PowerPoint units, Internet research-based units. The paper also discusses the advantages of and strategies for using an Intranet to support teaching and learning as well as elements helpful for nurturing a culture of collaboration and a vital relevant library.

### **A fantasy of the school library**

The image that comes to mind when I think of a vital school library is that of a dynamo. One dictionary defines 'dynamo' in this way:

**"dynamo** *n.* electrical current generator *Colloq.* Energetic person"  
(Macquarie Office Manual)

It usually does feel electric and hectically busy, a productive place with staff who necessarily expend a lot of energy in their work of linking students and staff with information. Our teaching staff often describe the library by saying, "It's really buzzing". The word "dynamo" also stems from the same word as "dynamic" which is what we would like our libraries to be, dynamic places of intellectual and both real and vicarious emotional exploration and challenge.



Adapted from Dynamo Model (Effect)

<http://www.stcloudstate.edu/~physcrse/astr106/images/dynamo.jpg>

### Why do we do what we do?

Of course, we are interested not so much in how the library looks but in the genuine development of critically aware students who will be lifelong learners and contributing citizens of a knowledge society. As Dr Alan Bundy (2001, p. 7) perceives the situation:

*"Teacher librarians – all librarians – have always implicitly had a personal and collegial vision of an information enabled Australia. That implicit vision now needs to be made explicit to push open the window of opportunity, which the clever country, information age, information society, information economy, knowledge culture, knowledge nation, the smart state and lifelong learning provide. That is our window of opportunity, because we alone recognize that the key issue of the so-called Information Age is not information technology. Rather the issue is, as Jamie McKenzie emphasises, information literacy. We know that all of the information and technology in the world will not, in themselves, create more informed, knowledgeable and wiser children and adults."*

And we are the dynamos - the specialists in information literacy. We have the special responsibility of connecting our students and colleagues to the world of information and providing relevant opportunities for intentionally building and honing their skills in accessing, selecting, evaluating and transforming information. As Jamie McKenzie (Hay, 1998, p. 7) expresses it, we as teacher librarians are "infotects", "antidotes to info-glut and info-garbage", helping others "to navigate through the information landscape". In my view, we are professional connectors; links but not static as in a chain – we are dynamic links, responding with sensitivity, insight and energy to develop information literacy in students.

### How do we do it?

There are, of course, multitudes of ways and we can all learn something from each other. This is the approach at my school, St Andrew's Cathedral School in Sydney. The library staff (two secondary teacher librarians, one part-time primary teacher librarian) collaboratively plan with the classroom teacher, then design research-based units of work, teach and assess them. Generally the teacher librarian takes over most of the explanation of the unit and together with the subject teacher works alongside the students during the course of unit. The teacher librarians also resource the units, finding highly relevant websites and posting them on the school's Intranet as well as ensuring that there are adequate books and/or periodical resources available for the topic. If we do not have sufficient resources or the task is difficult to resource, we may develop resource packs of photocopied articles or excerpts from a book.

We as the teacher librarians are given a brief by the classroom teacher, for example, a unit for Year 10 astronomy covering certain aspects of the syllabus or a Year 8 Maths unit on the history of Pi. We (the teacher librarians) then develop a unit and give the draft to the teacher for feedback, alterations or adjustments. We then hone it further. Generally two teacher librarians have input to each unit; we have found this collegiality very helpful and enriching both personally and for our work, as we bring different strengths and insights to bear on the unit.

The primary teacher librarian develops units which require meticulous thought and preparation as she seeks to help students develop their skills in using indexes and contents pages in books, navigate and get meaning from selected websites, use the library catalogue and formulate keywords. Some of the units developed have been on the 1850s gold rush in Australia, Aboriginal peoples, Antarctica, rainforests and the production of food. Many props

are used for these units, such as bread bags with brown paper loaves in them, jars of honey and empty milk cartons.

### **How do we motivate our students to learn?**

We need to find keys to make our students excited about learning. Often this can be done by exposing them to a stimulus such as laminated pictures, discussion tapping into prior learning, models (as for example, in our Year 7 archaeology unit we use a model of the Tudor ship, the Mary Rose), modelling how to do a task, eg interpret historical information from a photograph. At the start of a unit on the Great Depression we hang enlarged laminated photos of the period on fishing line from the ceiling and ask the students to move around and look at them closely, then fill in their observations on a prepared sheet of paper. We attempt to engage their interest and emotions as well as their intellect. We are aware of our significant opportunity for shaping values and attitudes particularly with regard to indigenous issues. At the beginning of a unit on the explorers Burke and Wills who died of starvation in central Australia in the 1860s, we hang a very large map of Australia which shows in different colours the land areas of the many Aboriginal tribes and we trace Burke and Wills' journey through the arid interior. Their route is through the land of several tribes and we ask – why did they die when all these tribes survive well? As part of a unit on Aboriginal history we use several copies of a storybook called *The Drover's Boy*; we play the song on a CD player as students follow it in the book. It is a sad story of an Aboriginal woman who survived a massacre and travelled with drovers disguised as a boy but as the concubine of the head drover.

In the primary and Year 7 classes we often use a stations approach and label each station with the station name or number. In a unit on Ancient Egypt the class rotates around four stations, one using *Tutankhamun's diary* for translating hieroglyphs and answering questions about daily life in Egypt, another using websites to interpret tomb paintings. The third station uses several copies of the picture book *I am the mummy Heb-Nefert* as a springboard to writing a procedure for mummification and the last station works with a "model" of Tutankhamun's mummy wrapped in bandages with assorted amulets.

### **Information skills units**

For information skills based units we have developed a proforma booklet that can be readily adapted for different subject areas. We try to have every class in at least Years 7-10 (12-16 year olds) do at least one information skills unit each year. Most Year 11 classes (17 year olds) also do one. Examples of areas we have covered with this type of unit are the Great Depression, Russia in 1904, the Olympics, the Celts, and astronomy. The information skills booklet explains the stages of the Information Process and the work of each stage in the booklet is marked so that not only the final product is evaluated but also how the students are negotiating the information landscape.

In the new syllabus documents that were introduced in our state, New South Wales, three years ago, there is a greatly increased emphasis on information skills; these are embedded within the outcomes and they are particularly apparent in the Science documents. For this reason we have encouraged our Science staff to work with us to develop a unit based on information skills. Each stage is assessed.

<b>The Information Process for Research on Astronomy</b>		
Step	Questions	Actions/responses
Defining	<b>What do I want to find out?</b> What is my purpose? Why do I need to find this out? What are key words/ideas of the task? What do I need to do?	Construct mind map Rewrite task in own words Underline keywords in task List keywords - broad, narrow
Locating	<b>Where can I find information?</b> What do I already know? What do I still need to find out? What sources and equipment can I use?	Investigate a variety of likely sources using keywords compiled in Defining eg OPACs, indexes in books, electronic indexes, full text sources, Internet
Selecting	<b>What information do I really need to use?</b> What information can I leave out? <b>How relevant is the information I have found?</b> How credible is the information I have found? How will I record the information I need?	Skimming and scanning chapter headings, sub headings, information in bold type, diagrams etc Evaluate websites Decide on headings for notetaking and design notemaking grid
Organising	<b>How can I best use this information?</b> Have I enough information for my purpose? Do I need to use all this information? How can I best combine information from different sources?	Enter notes under appropriate headings Start to combine information Consider accuracy and appropriateness of information given the audience and presentation requirements of task eg are graphics required?
Presenting	<b>How can I present this information?</b> What will I do with this information? With whom will I share this information?	Organise audiovisual equipment Choose and organise graphics, text for poster Complete poster Write and practise talk
Assessing	<b>What did I learn from this?</b> Did I fulfil my purpose? How did I go – with each step of the information process? How did I go – presenting this information? Where do I go from here?	

Table 1: Information Process for Research on Astronomy

Based on Dawson, M. & Kallenberger, N. (eds). (1988) *Information skills in the school*, p.8.

For example, in the astronomy booklet the **Defining** phase asks students to define terms and develop a mind map of their area of the topic. Students can either be asked, prior to coming to the library, which areas they want to research. Otherwise the teacher assigns the questions according to ability level. For this unit the final products were a poster or visual presentation and an oral presentation to the class. Each student had a different question to research (pp. 4 & 5) but students were also within groups researching related topics and needed to have a group introduction in their presentation which indicated how their area fitted with the group's theme, e.g. "powering the universe".

In the **Selecting** phase students write down some relevant resources and websites they have found and also evaluate a nominated relevant website. Space is also provided for **Organising** and notemaking, a bibliography and self-assessment. In an area that is not the teacher librarian's area of expertise, the classroom teacher may mark the presentations while the teacher librarian marks the booklet. If the subject area is an area of the teacher librarian's

expertise the presentations may be jointly marked. We evaluate the units of work ourselves and improve them for the next time. We also modify them for less able classes.

**Bloom’s-based units**

We also produce units based on Bloom’s Taxonomy of Thinking Skills and sometimes use the Revised Taxonomy too.

Table 2: Bloom's Taxonomy and the Revised Taxonomy (Pohl, 2000).

BLOOM'S TAXONOMY OF THINKING SKILLS	THE NEWLY REVISED BLOOM'S TAXONOMY
Knowledge	Remembering
Comprehension	Understanding
Application	Applying
Analysis	Analysing
Synthesis	Evaluating
Evaluation	Creating

Examples of these units are:

The History of Pi, background research to the play *Away*, American Indians, plants and animals of the Snowy Mountains and Aboriginal experience to 1914. The initial phase usually involves some research on our part to come up with interesting relevant activities and then further negotiation with the teacher to decide which are most relevant. The History of Pi unit was done with a very capable Year 8 maths class and much of the information was from the Internet. We posted links to many sites on our intranet but the students could also search by themselves. They researched the history of Pi in considerable depth and enjoyed themselves a great deal as well. They liked finding the interesting facts about Pi (ratio of elephant’s height to his foot size, etc.), plotting the relative sizes of the planets and their orbits and then exploring new skills by producing them as Excel graphs, developing a timeline of famous mathematicians connected with pi and then especially designing fun activities to use at a Pi Day party, such as a rap. The unit finished with a pizza lunch. Making the thinking skills explicit seems to be both empowering to students as well as providing motivation.

**PowerPoint units**

Motivation and focus is well maintained with boys when doing research that will culminate in a PowerPoint presentation. In doing these, I often give a brief tutorial on the main aspects of PowerPoint as well as a handout about its main features. Examples of this approach are:

- The lowest Year 7 class worked on a maths unit using timetables to help design a tour of four Sydney landmarks with information on each, researched the timetables of buses, trains and ferries and developed an itinerary for visiting the landmarks of their choice. The idea was that the class would go on an excursion and test out the tour on the best presentation.
- The Year 7 German class developed a virtual tour of Germany with pairs of students presenting information on different cities; this also involved self-assessment, peer-assessment as well as teacher-assessment.
- The lowest Year 9 maths class did a unit on Pythagoras and mathematics in Ancient, Greece, Rome and Egypt.

- Year 9 history developed presentations on different aspects of World War II, e.g. Battle of Britain, Kokoda Trail, D-Day, Hiroshima, Rommel, etc.
- Year 11 Ancient History recently completed presentations on different characters of the Ancient World, e.g. Homer, Sappho, Aristotle, Xerxes, Boudicca, Agrippina.

The presentations are shown in a room with a data projector attached to the library and the assignments are uploaded by students into a dropbox on the school's intranet.

PowerPoint units have some clear positive benefits for students

- Discouragement of plagiarism due to the need to summarise and understand the main points
- Encouraging creativity
- Developing problem-solving
- Increased ability to use and understand technology
- Evaluating the components of an effective presentation
- Learning how to synthesize the speech with the visual presentation
- Building confidence
- The sustained enthusiasm, motivation and interest engendered by the format
- The opportunity to share in each other's learning discoveries.

### **Internet-based units**

We also prepare webquests, brief (2 period) units on a topic and Internet research-based units on current topics. One very successful brief and fun worksheet was on the Gallipoli campaign in World War I, a very significant event in Australian history. Tasks involved were translating distinctive ANZAC slang, plotting locations on a map of the Gallipoli peninsula, listening to the Prime Minister's moving speech on the Unknown Soldier, and seeking specific information about Kemal Ataturk and the memorial at Ari Burnu.

### **The Intranet**

St Andrew's Cathedral School uses an AUC intranet (Authenticated User Community developed by Blair High School in the USA). The intranet allows staff and students access from home via the school's website, allows storage of files so they can be accessed on any computer in the school or from home, permits electronic lodgement of assignments such as PowerPoint presentations and enables staff to post assignments, links and information, and organise discussion groups. It is a significant factor and helps to integrate technology with teaching and learning, fosters communication, and provides motivation for students. It adds an authentic electronic dimension to the learning community of the school. More information about the AUC can be found at <http://auc.sourceforge.net/about.shtml>.

### **Significant elements underpinning the library's work**

- A highly supportive principal
- A culture of collaboration, initially developed through working with one faculty and now spreading across the school
- The intranet as a means of easily delivering assignments, relevant links and opportunities for electronic discussion.
- Teaching-focused people-oriented teacher-librarians

- An arsenal of approaches to provide variety and creativity in learning tasks
- Opportunity for professional collaboration

**How can a rich and dynamic library environment be developed and sustained in all school libraries regardless of the school's socio-economic status, the variations in funding and regardless of the digital divide? What are the vital factors?**

This is a topic worthy of extended discussion and deep thought and I would encourage all teacher librarians to contribute their ideas. Some of the vital factors probably are:

- Positive attitude of the teacher librarian to staff and students
- Willingness to work collaboratively
- Careful selection and resourcing of the school curriculum, including photocopied resource packs when funds are low
- Challenging authentic and varied research tasks
- A very supportive principal

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